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EXAMINER	
LEE, GILBERT Y	

ART UNIT	PAPER NUMBER
3673	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/801,095	MELLER ET AL.	
	Examiner	Art Unit	
	GILBERT Y. LEE	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-7,9-11,14-23 and 25-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-7,9-11,14-23 and 25-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed 2/28/08 has been entered.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the supporting surface in full area contact with the supporting flank in claims 1, 25, and 26; as well as, the sealing surface being in full area contact with the supporting flank in claim 27 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 25 is objected to because of the following informalities: line 14 starting with "wherein the second gap" should be placed after paragraph 7 of claim 25. Appropriate correction is required.

5. Claim 27 is objected to because of the following informalities: paragraph 3 starting with "wherein the second gap" should be placed after paragraph 6 of claim 27. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, 4-7, 9-11, 14-23, and 25-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1, 25, and 26 recite that the support surface "can be brought into flat and full area contact with the supporting flank of the groove". The disclosure does specify that the supporting surface can be in full area contact with the supporting flank of the groove, but the disclosure does not enable one to make and/or produce the product. The disclosure only enables the sealing surface to be flat and if the whole support surface is to be in full area contact with the supporting flank groove, the two components would have to be in contact with each other. Figures 1a, 3a-c, 4a, 4b, and 5 clearly show that if the supporting surface was shortened to meet this limitation, then the two components would have to be in contact with each other. Claim 27 recites that the sealing surface is in "flat and full area contact with the supporting flank of the groove". The disclosure does specify that the supporting surface can be in full area contact with the supporting flank of the groove, but the disclosure does not enable one to make and/or produce the product, nor does it enable the support surface being in full contact with the supporting flank.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 4-7, 9-11, and 14-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "a supporting flank" in line 7 and in line 9. It is unclear to the examiner as to whether the applicant is claiming two different supporting flanks, or just a single supporting flank. For the purposes of this examination, the examiner is interpreting the claim to be claiming only one supporting flank. Appropriate correction is required.

Claims 4-7, 9-11, and 14-23 are rejected for depending upon a rejected claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 4-7, 9, 11, 14-20, 22, 23, and 25-27, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Abiko (WIPO Pub. No. WO 01/84024 A1) in view of Reiners (US Patent No. 3,104,594).

Regarding claim 1, the Abiko reference discloses a sealing arrangement (Fig. 9) consisting essentially of a sealing ring (110) including a radially internal or external sealing surface (e.g. surface of 110 in contact with 200), where, to one side of the

sealing surface, the sealing ring displays a pressurizing surface (e.g. right surface of 110) and, on the opposite side, a supporting surface (e.g. left surface of 110),

wherein the supporting surface is completely designed as a lateral surface of a truncated cone (Fig. 9),

wherein the sealing ring is divided almost completely or throughout in the radial direction at one point on its circumference (e.g. at T), forming a weaker area,

wherein the entire sealing surface is in sealing contact (Fig. 9) to form a seal when the sealing ring is pressurized.

However, the Abiko reference fails to explicitly disclose the two components and that the areas of the lateral surface of a truncated cone of the pressurizing surface or the supporting surface, or of the pressurizing surface and the supporting surface, each enclose an angle of 30° to 60° with the sealing surface towards said sealing surface.

The Reiners reference, a sealing system for a truncated cone seal, discloses two components (33 and 13 including 22) moving relatively to each other, said components having a first gap (gap between 13 and 33) therebetween, including a fluid medium (Col. 3, Lines 38-41) and, on the opposite side, a supporting flank (26) of the component accommodating the sealing ring (Fig. 3),

wherein one of the two components displays a groove (17) without an undercut to receive the sealing ring, where the groove displays a supporting flank (26) opposite the supporting surface of the sealing ring (Fig. 3), and a pressure-side flank (24) opposite the pressurizing surface of the sealing ring (Fig. 3), where the sealing surface

of the sealing ring projects from the receiving component in the radial direction (Fig. 3), and wherein said sealing ring has a central longitudinal axis (e.g. axis shown in Fig. 1);

wherein a second gap (e.g. gap between 27 and 24) is provided, at least between the pressurizing surface of the sealing ring and the pressure-side flank (Fig. 3), into which the fluid medium to be provided on the pressure side of the sealing ring can flow, pressing the sealing ring in sealing fashion against the supporting flank of the groove and against one of said two components (Fig. 3), and, by application of pressure by the fluid medium, the supporting surface of the sealing ring can be brought into flat and full area contact with the supporting flank of the groove (Fig. 3),

wherein the supporting surface results in flat contact with the supporting flank of the groove (Fig. 3),

wherein the second gap extends over the entire lateral extension of the sealing ring (Fig. 3),

wherein the sealing arrangement is characterized in that the pressurizing surface or the supporting surface, or the pressurizing surface and the supporting surface, each form a lateral surface and the lateral surfaces each extend at least up to the area of the sealing ring projecting from the groove and into said first gap between said components (Fig. 3).

Discovering an optimum range of a result effective variable involves only routine skill in the art. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time the invention was made to

make the areas of the lateral surface of a truncated cone of the pressurizing surface or the supporting surface, or of the pressurizing surface and the supporting surface, each enclose an angle of 30° to 60° with the sealing surface towards said sealing surface as a matter of mechanical expedience.

Regarding claim 4, the Abiko reference, as modified in claim 1, discloses that the area of the pressurizing surface and the supporting surface, with the form of a truncated cone follows on laterally, at least almost directly, from the sealing surface (Abiko, Fig. 9).

Regarding claim 5, the Abiko reference, as modified in claim 1, discloses a surface (Abiko, e.g. bottom surface of seal) being located between the pressurizing surface and the supporting surface, opposite to the sealing surface, which is a lateral surface of a truncated cone (Abiko, Fig. 9).

Regarding claim 6, the Abiko reference, as modified in claim 1, discloses the radial thickness (Abiko, e.g. thickness taken between bottom surface of the seal in Fig. 9a and the bottom dotted line) of the sealing ring being less than/equal to the extension of the sealing surface in the axial direction of the sealing ring (Abiko, Fig. 9a).

Regarding claim 7, the Abiko reference, as modified in claim 1, discloses the pressurizing surface and the supporting surface being profiled (Abiko, Fig. 9).

Regarding claim 9, the Abiko reference, as modified in claim 1, discloses the weaker area being designed as a complete division of the sealing ring (Abiko, Fig. 9b), formed two opposite sealing ring ends, in that at least one, integrally molded area extending in the circumferential direction of the sealing ring being provided on each of

the sealing ring ends, and in that the areas associated with different sealing ring ends being located one behind the other in the axial direction of the sealing ring, forming a labyrinth seal (Abiko, Fig. 9b). Note that the ends of the sealing ring of the Abiko reference are **capable of** being in contact with each other in operating condition.

Regarding claim 11, the Abiko reference, as modified in claim 1, discloses the sealing surface being partly or entirely arranged concentrically to the central longitudinal axis of the sealing ring (Reiners, Fig. 1), and being designed as the surface of a cylinder that can be a radially external or internal boundary surface of the ring (Reiners, Fig. 1).

Regarding claim 14, the Abiko reference, as modified in claim 1, discloses the second gap extending at least partially over the side of the sealing ring opposite the sealing surface of the sealing ring (Reiners, Fig. 3), which forms a transitional area (Reiners, e.g. 29) between the supporting surface and the pressurizing surface (Reiners, Fig. 3).

Regarding claim 15, the Abiko reference, as modified in claim 1, discloses the sealing ring projecting from the groove in the component in the radial direction by less than one-third of its radial thickness (Reiners, Fig. 3).

Regarding claim 16, the Abiko reference, as modified in claim 1, discloses the supporting flank of the groove being brought into full contact with the supporting surface of the sealing ring by pressurizing fluid medium (Reiners, Fig. 3).

Regarding claim 17, the Abiko reference, as modified in claim 1, discloses the second gap displaying an essentially constant gap width over its radial extension (Reiners, Fig. 3).

Regarding claim 18, the Abiko reference, as modified in claim 1, discloses the groove being of rounded design in the area of the groove base, or in at least one transitional area to an adjacent groove flank (Reiners, Figs. 2-5).

Regarding claim 19, the Abiko reference, as modified in claim 1, discloses a first of said two components (Reiners, 13 and 22) being provided, which displays the sealing ring accommodated in a circumferential groove, and in that a second of said two components (Reiners, 33) being provided, which is capable of motion relative to the first of said two components and with which the sealing surface of the sealing ring can be brought into contact in sealing fashion during motion of the components relative to each other (Reiners, Fig. 3), and in that the sealing ring is located in the groove without pretension in relation to the component to be sealed (Reiners, Fig. 2).

Regarding claim 20, the Abiko reference, as modified in claim 1, discloses the component accommodating the sealing ring in the groove being a shaft (Reiners, Col. 2, Lines 34-37), and in that a shaft guide (Reiners, 33)is provided, with which the sealing surface of the sealing ring can be brought into contact in sealing fashion by application of the pressure of the fluid medium during rotary motion of the shaft and the shaft guide relative to each other (Reiners, Fig. 3), in that the shaft guide is made of a light metal, and in that the supporting surface of the sealing ring is inclined to the longitudinal axis of the sealing ring such that, owing to the pressure force of the fluid medium on the sealing ring, the sealing ring is located in non-rotating fashion relative to the shaft guide (Reiners, Fig. 3).

Regarding claim 22, the Abiko reference, as modified in claim 1, discloses the two components comprising a shaft (Reiners, 13 and 22) and a shaft guide (Reiners, 33).

Regarding claim 23, the Abiko reference, as modified in claim 1, discloses the two components comprising a cylinder (Reiners, 33) and a piston (Reiners, 13 and 22).

Regarding claim 25, the Abiko reference discloses a sealing arrangement (Fig. 9) consisting essentially of a sealing ring (110), including a radially external sealing surface (e.g. surface of 110 in contact with 200), where, to one side of the sealing surface, the sealing ring displays a pressurizing surface (e.g. right surface of 110) to be pressurized and, on the opposite side, a supporting surface (e.g. left surface of 110) and a transitional area (e.g. area between the right and left surface of 110),

wherein the supporting surface is completely designed as a lateral surface of a truncated cone (Fig. 9),

wherein the sealing ring is divided almost completely or throughout in the radial direction at one point on its circumference (e.g. at T), forming a weaker area.

However, the Abiko reference fails to explicitly disclose the two components and that the areas of the lateral surface of a truncated cone of the pressurizing surface or the supporting surface, or of the pressurizing surface and the supporting surface, each enclose an angle of 30° to 60° with the sealing surface towards said sealing surface.

The Reiners reference, a sealing system for a truncated cone seal, discloses two components (33 and 13 including 22) moving relatively to each other, said components having a first gap (gap between 13 and 33) therebetween, including a fluid medium

(Col. 3, Lines 38-41) and, on the opposite side, a supporting flank (26) of the component accommodating the sealing ring (Fig. 3),

wherein the second gap extends over the entire lateral extension of the sealing ring (Fig. 3),

wherein one of the two components displays a groove (17) without an undercut to receive the sealing ring, where the groove displays a supporting flank (26) opposite the supporting surface of the sealing ring (Fig. 3), and a pressure-side flank (24) opposite the pressurizing surface of the sealing ring (Fig. 3), where the sealing surface of the sealing ring projects from the receiving component in the radial direction (Fig. 3), and wherein said sealing ring has a central longitudinal axis (e.g. axis shown in Fig. 1);

wherein a second gap (e.g. gap between 27 and 24) is provided, at least between the pressurizing surface of the sealing ring and the pressure-side flank (Fig. 3), into which the fluid medium to be provided on the pressure side of the sealing ring can flow, pressing the sealing ring in sealing fashion against the supporting flank of the groove and against one of said two components (Fig. 3), and, by application of pressure by the fluid medium, the supporting surface of the sealing ring can be brought into flat and full area contact with the supporting flank of the groove (Fig. 3),

wherein the supporting surface results in flat contact with the supporting flank of the groove (Fig. 3),

wherein the second gap extends over the entire lateral extension of the sealing ring (Fig. 3),

wherein the sealing arrangement is characterized in that the pressurizing surface or the supporting surface, or the pressurizing surface and the supporting surface, each form a lateral surface and the lateral surfaces each extend at least up to the area of the sealing ring projecting from the groove and into said first gap between said components (Fig. 3).

Discovering an optimum range of a result effective variable involves only routine skill in the art. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the areas of the lateral surface of a truncated cone of the pressurizing surface or the supporting surface, or of the pressurizing surface and the supporting surface, each enclose an angle of 30° to 60° with the sealing surface towards said sealing surface as a matter of mechanical expedience.

Regarding claim 26, the Abiko reference discloses a sealing arrangement (Fig. 9) consisting essentially of a sealing ring (110), including a radially external sealing surface (e.g. surface of 110 in contact with 200), where, to one side of the sealing surface, the sealing ring displays a pressurizing surface (e.g. right surface of 110) to be pressurized and, on the opposite side, a supporting surface (e.g. left surface of 110) and a transitional area (e.g. bottom surface of 110 in Fig. 9a closest to 301),

wherein the pressurizing surface and the supporting surface are inclined relative to the sealing surface and enclose an angle of less than 90° towards it (Fig. 9),

wherein the sealing ring is divided almost completely or throughout in the radial direction at one point on its circumference (e.g. at T), forming a weaker area,

wherein the pressurizing surface and the supporting surface each form a lateral surface (Fig. 9).

However, the Abiko reference fails to explicitly disclose the two components and that the areas of the lateral surface of a truncated cone of the pressurizing surface or the supporting surface, or of the pressurizing surface and the supporting surface, each enclose an angle of 30° to 60° with the sealing surface towards said sealing surface.

The Reiners reference, a sealing system for a truncated cone seal, discloses two components (33 and 13 including 22) moving relatively to each other, said components having a first gap (gap between 13 and 33) therebetween, including a fluid medium (Col. 3, Lines 38-41) and, on the opposite side, a supporting flank (26) of the component accommodating the sealing ring (Fig. 3),

wherein the second gap extends over the entire lateral extension of the sealing ring (Fig. 3),

wherein one of the two components displays a groove (17) without an undercut to receive the sealing ring, where the groove displays a supporting flank (26) opposite the supporting surface of the sealing ring (Fig. 3), and a pressure-side flank (24) opposite the pressurizing surface of the sealing ring (Fig. 3), where the sealing surface of the sealing ring projects from the receiving component in the radial direction (Fig. 3), and wherein said sealing ring has a central longitudinal axis (e.g. axis shown in Fig. 1);

wherein a second gap (e.g. gap between 27 and 24) is provided, at least between the pressurizing surface of the sealing ring and the pressure-side flank (Fig. 3), into which the fluid medium to be provided on the pressure side of the sealing ring can flow, pressing the sealing ring in sealing fashion against the supporting flank of the groove and against one of said two components (Fig. 3), and, by application of pressure by the fluid medium, the supporting surface of the sealing ring can be brought into flat and full area contact with the supporting flank of the groove (Fig. 3),

wherein the supporting surface results in flat contact with the supporting flank of the groove (Fig. 3),

wherein the second gap extends over the entire lateral extension of the sealing ring (Fig. 3),

wherein the sealing arrangement is characterized in that the pressurizing surface or the supporting surface, or the pressurizing surface and the supporting surface, each form a lateral surface and the lateral surfaces each extend at least up to the area of the sealing ring projecting from the groove and into said first gap between said components (Fig. 3).

Discovering an optimum range of a result effective variable involves only routine skill in the art. Since applicant has not shown some unexpected result the inclusion of this limitation is considered to be a matter of choice in design. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the areas of the lateral surface of a truncated cone of the pressurizing surface or the supporting surface, or of the pressurizing surface and the supporting surface, each

enclose an angle of 30° to 60° with the sealing surface towards said sealing surface as a matter of mechanical expedience.

Regarding claim 27, the modified Abiko reference discloses the invention substantially as claimed in claim 25, including the sealing surface of the sealing ring being the surface with the greatest width referring to the cross-sectional view of the sealing ring (Abiko, Fig. 9),

wherein the sealing surface of the sealing ring is in flat and full area contact with the supporting flank of the groove over the entire height and the entire circumference of the sealing ring (Abiko, Fig. 9); and

wherein the sealing surface of the sealing ring in the pressurized sealing position of the sealing ring is in full area contact with the opposite component (Abiko, Fig. 9).

9. Claim 10, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Abiko in view of Reiners as applied to claims 1, 4-7, 9, 11, 14-20, 22, 23, and 25-27 above, and further in view of Flick (US Patent No. 2,970,871).

Regarding claim 10, the Abiko reference, discloses the invention substantially as claimed in claim 1, including the seal ring being made of rubber (Fig. 9).

However, the Abiko reference fails to explicitly disclose the material of the seal ring consisting of a plastic with an elongation at break at room temperature of $\leq$ 50 percent.

The Flick reference, a piston ring, discloses that seals maybe made of rubber, synthetic rubber, or PTFE (Col. 3, Lines 42-48).

It would have been obvious at the time the invention was made to provide the seal ring of the Abiko reference with PTFE in view of the teachings of the Flick reference to provide a material having a desired hardness.

10. Claim 21, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Abiko in view of Reiners as applied to claims 1, 4-7, 9, 11, 14-20, 22, 23, and 25-27 above, and further in view of Freudenthal (US Patent No. 4,618,154).

Regarding claim 21, the modified Abiko reference discloses the invention substantially as claimed in claim 1, including the component accommodating the sealing ring being a shaft.

However, the modified Abiko reference fails to explicitly disclose the component accommodating the sealing ring being a shaft guide, and in that a shaft capable of rotation relative to it is provided, with which the sealing surface of the sealing ring can be brought into contact in sealing fashion.

The Freudenthal reference, a seal for a shaft, discloses that the seal can be in either the shaft (Fig. 6) or the shaft guide (Fig. 7).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the shaft guide with the seal in the modified Abiko reference in view of the teachings of the Freudenthal reference in order to provide a seal for different pressure applications.

Response to Arguments

11. Applicant's arguments with respect to claims 1, 3-7, 9-11, 14-23, 25, 26, and 27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GILBERT Y. LEE whose telephone number is (571)272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patricia L Engle/
Supervisory Patent Examiner,
Art Unit 3673

/G. Y. L./
Examiner, Art Unit 3673